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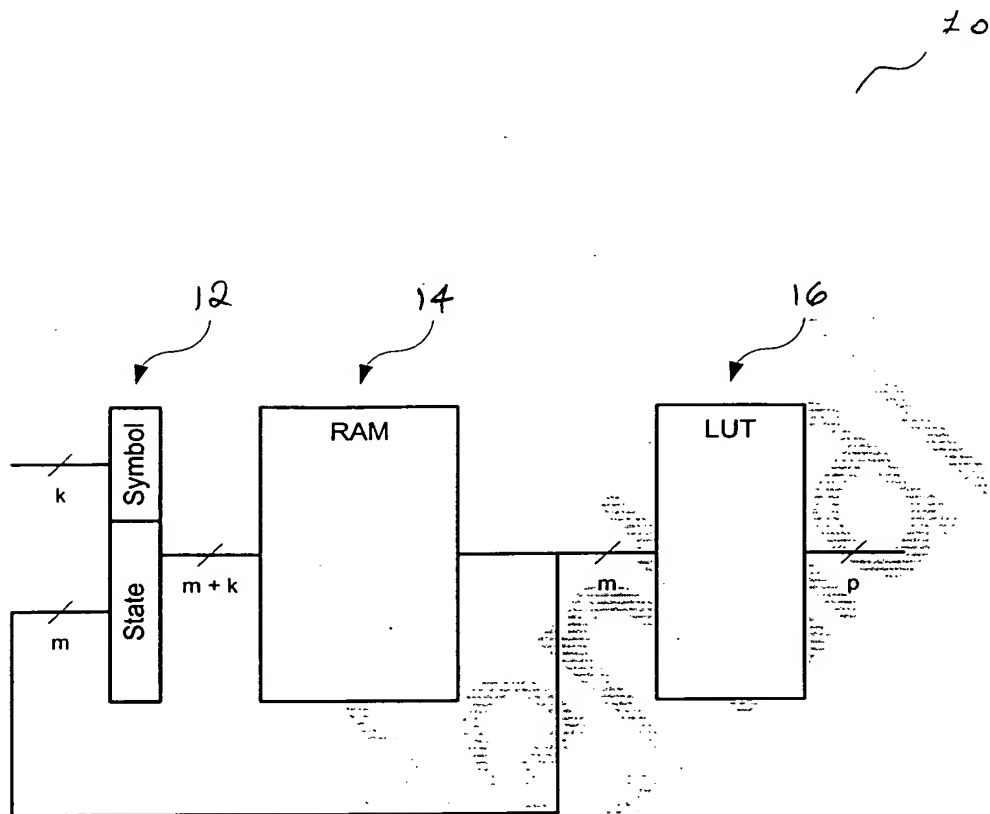


Fig. 1
(prior Art)

50

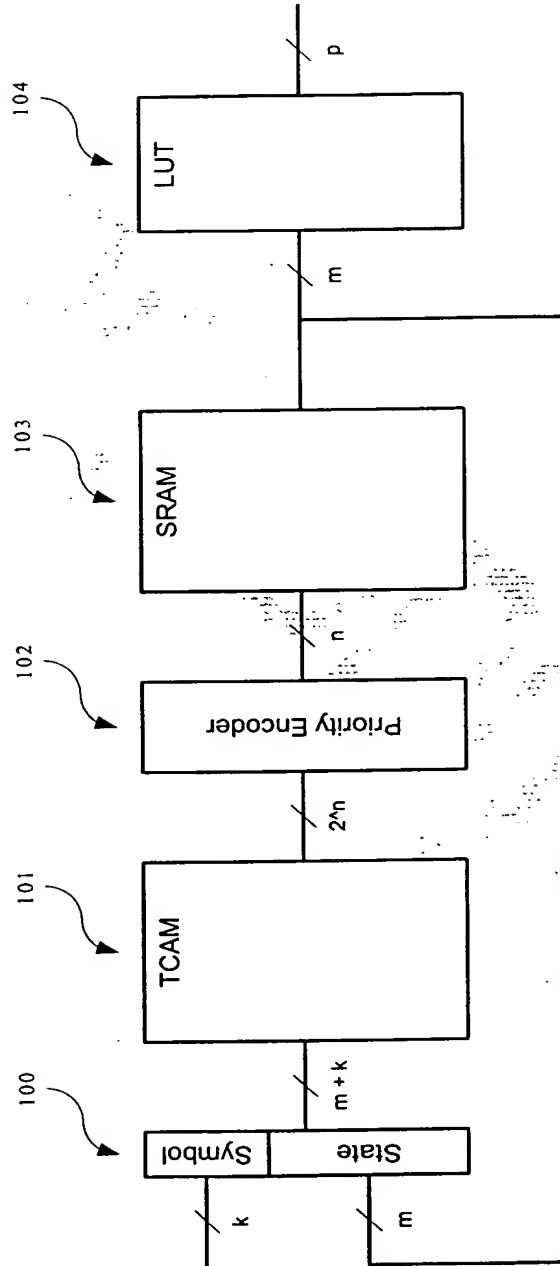


Fig. 2

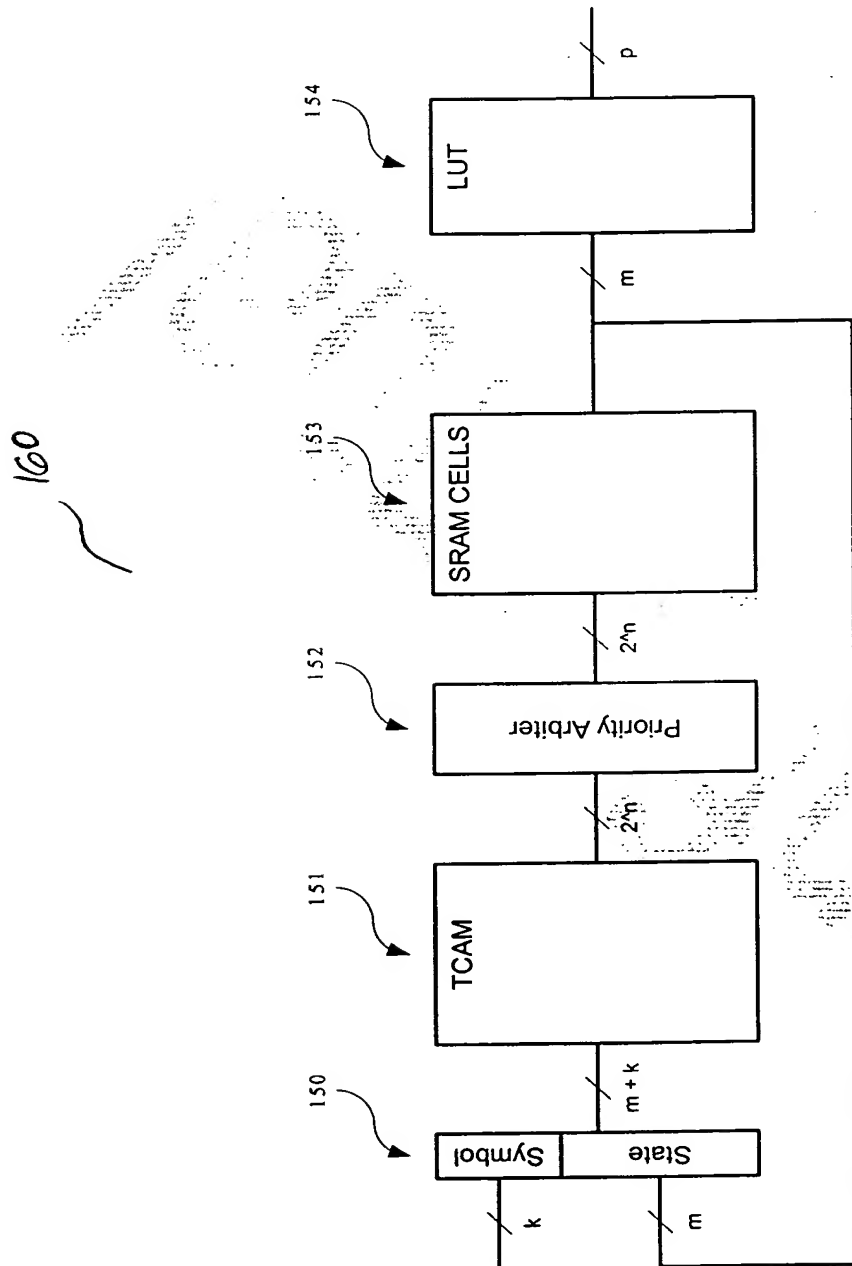


Fig. 3

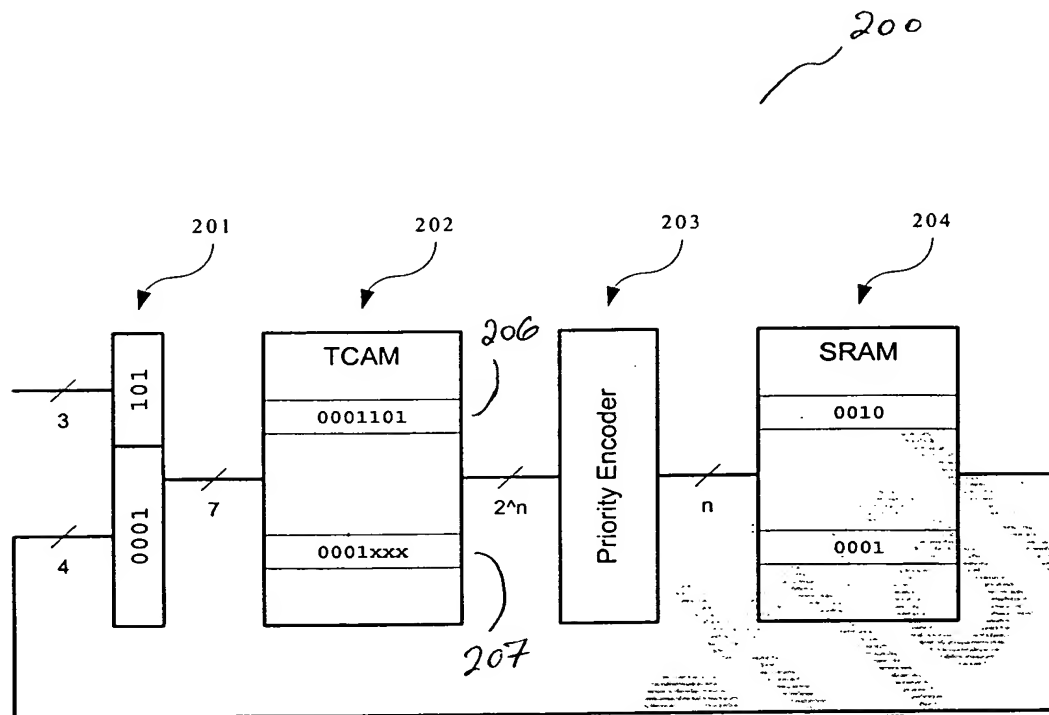


Fig. 4A

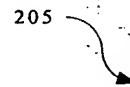


Fig. 4B

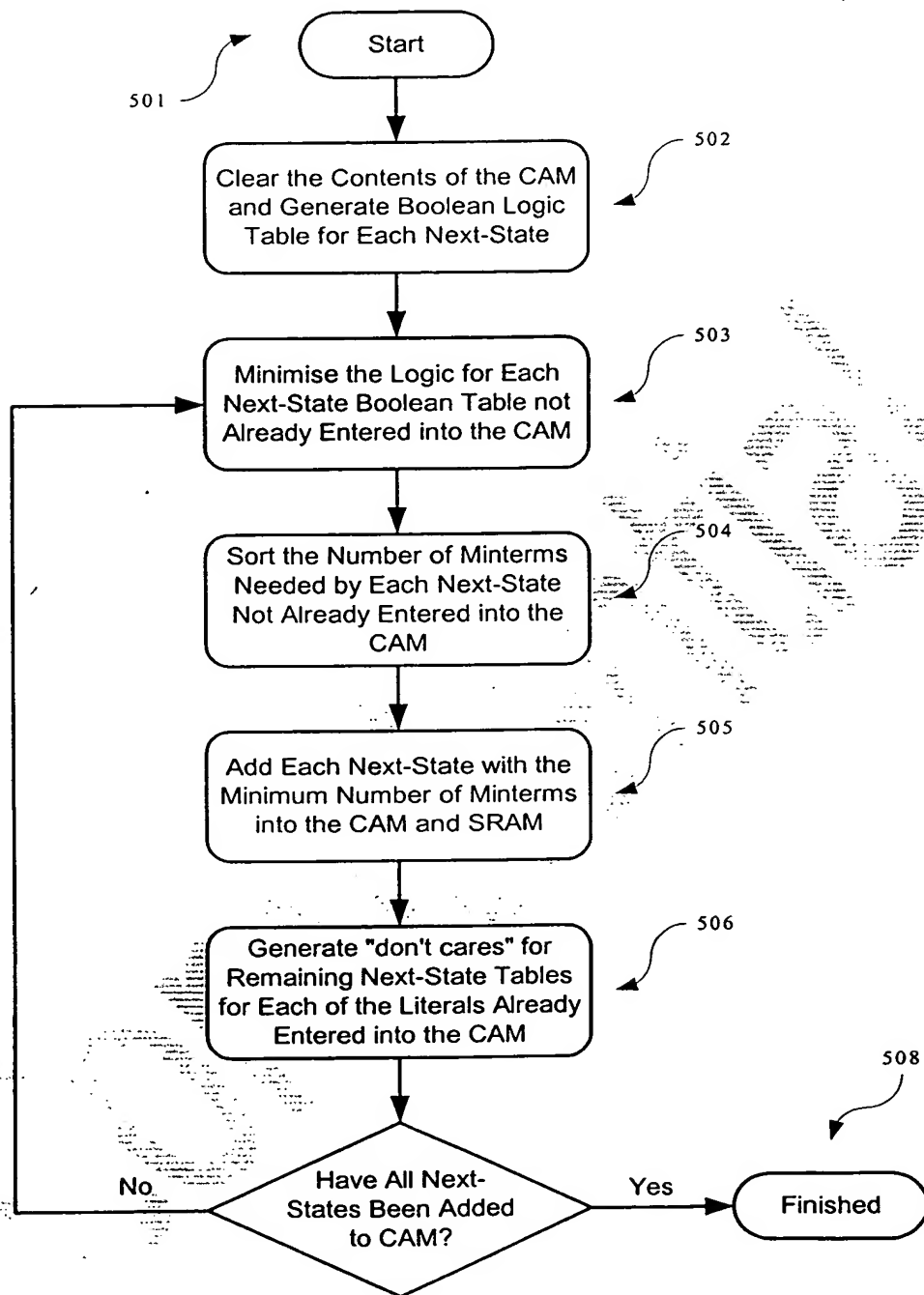
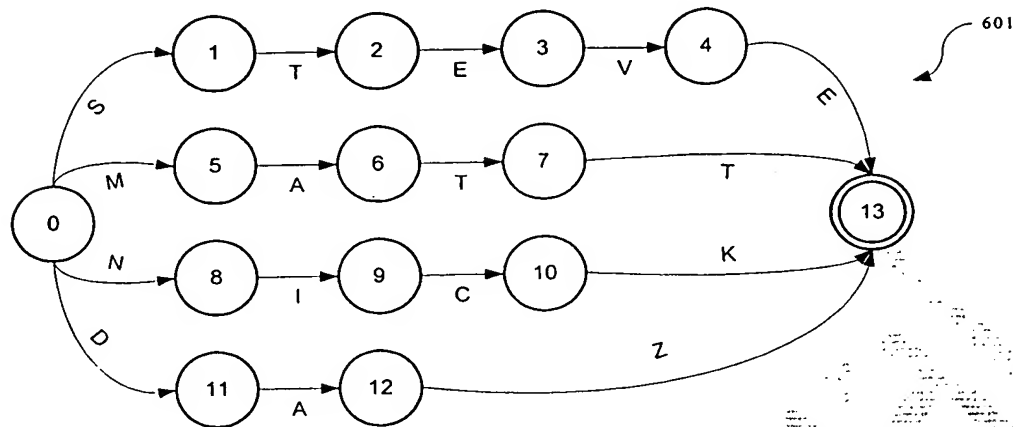


Fig. 5



		Symbol												
		A	C	D	E	I	K	M	N	S	T	V	Z	else
Current State	0	0	0	11	0	0	0	5	8	1	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	2	0	0	0
	2	0	0	0	3	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0	4	0	0
	4	0	0	0	13	0	0	0	0	0	0	0	0	0
	5	6	0	0	0	0	0	0	0	0	0	0	0	0
	6	0	0	0	0	0	0	0	0	0	7	0	0	0
	7	0	0	0	0	0	0	0	0	0	13	0	0	0
	8	0	0	0	0	9	0	0	0	0	0	0	0	0
	9	0	10	0	0	0	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	13	0	0	0	0	0	0	0
	11	12	0	0	0	0	0	0	0	0	0	0	0	0
	12	0	0	0	0	0	0	0	0	0	0	0	13	0
	13	13	13	13	13	13	13	13	13	13	13	13	13	13

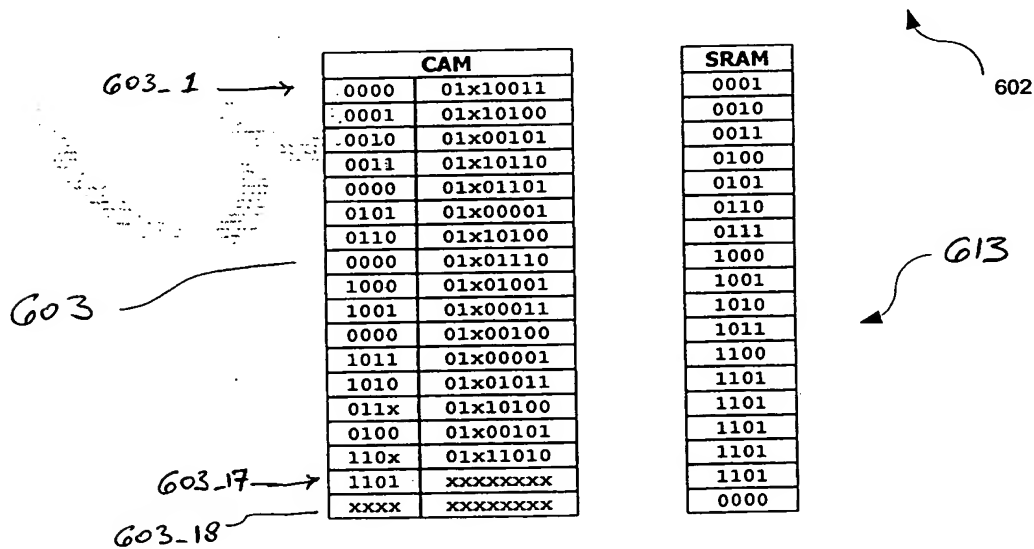


Fig. 6A

Character	ASCII Code
a	01100001
c	01100011
d	01100100
e	01100101
i	01101001
k	01101011
m	01101101
n	01101110
s	01110011
t	01110100
v	01110110
z	01111010
A	01000001
C	01000011
D	01000100
E	01000101
I	01001001
K	01001011
M	01001101
N	01001110
S	01010011
T	01010100
V	01010110
Z	01011010

Truth Table (State 0)			
0000	0000	0000	1
0000	0000	0001	1
0000	0000	0010	1
0000	0000	0011	1
...
0000	0101	0010	1
0000	0101	0011	0
0000	0101	0100	1
...
1100	1111	1111	1
1101	0000	0000	0
1101	0000	0001	0
...
1101	1111	1111	0
1110	0000	0000	x
1110	0000	0001	x
...

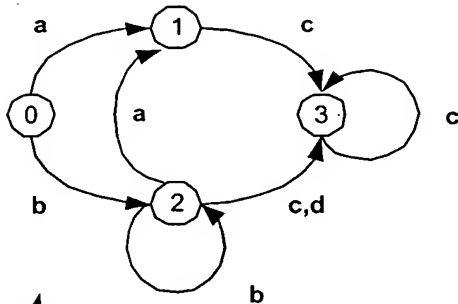
Truth Table (State 1)			
0000	0000	0000	0
0000	0000	0001	0
0000	0000	0010	0
0000	0000	0011	0
...
0000	0101	0010	0
0000	0101	0011	1
0000	0101	0100	0
...
1100	1111	1111	0
1101	0000	0000	0
1101	0000	0001	0
...
1101	1111	1111	0
1110	0000	0000	x
1110	0000	0001	x
...

Minimised f_0 (First Round)			
$ \begin{aligned} &010xxxxxxx0 + x01xxxxxxx00 + \\ &0x0xxxxx0x10 + x01xxxxx0x11 + \\ &011xxxx0xxxx + x0xxxxxxx111 + \\ &x0x0xxx000xx + 00x1xxxxxxx1 + \\ &x00xxxxx0x01 + 1x00xxx0xxxx + \\ &xx00xxx10x1 + xx00xxx1x00 + \\ &x0xxxxxxx0x0 + x01xxxx1x0x + \\ &x100xxx00xx + 0xxxxx1xx01 + \\ &0xx1xxx0x1xx + 0x10xxxxx1x + \\ &xx00xxx1x1xx + 01xxxxx1xxx + \\ &10xxxxxxx1xx + 10xxxxx1xxx + \\ &x0x1xxx1xxx + 0xxxxxxx0x0 + \\ &xx00x0xxxxxx + xx001xxxxxxx + \\ &01xxxxxxx1x + x0xxx0xxxxxx + \\ &x0xx1xxxxxxx + 0xxx0xxxxxx + \\ &0xxx1xxxxxx \end{aligned} $			

Minimised f_0 (2 nd Last Round)			
$ \begin{aligned} &xx00xxx0xxx0 + 0x1xxxxxxx1 + \\ &0xxxxxx0xxx0 + 0x01xxxxxxx + \\ &xx00xxxxx11 + xx00xxx1x0x + \\ &xx00xxx1x1xx + 1x00xxx0xxx + \\ &xx00x0xxxxxx + xx001xxxxxxx + \\ &x0x1xxxxxxx + 0xxxxxxx0xx + \\ &0xxxxxxx1x + 0xxxxxxx1xxx + \\ &0xxx0xxxxxx + 0xxx1xxxxxxx + \\ &x0xxxxxx0xxx + x0xxxxxxx0x + \\ &x0xxxxxxx1xx + x0xxxxxxx0 + \\ &x0xxxxx1xxx + x0xxx0xxxxxx + \\ &x0xx1xxxxxx \end{aligned} $			

Minimised f_0 (Last Round)
xxxxxxxxxxxx

Fig. 6B



	a	b	c	d
0	1	2	0	0
1	0	0	3	0
2	1	2	3	3
3	0	0	3	0

1000

1010

$f_0 = \sum (0010, 0011, 0100, 0101, 0111, 1100, 1101, 1111)$	$= \sum (001x, x10x, x1x1)$
$f_1 = \sum (0000, 1000)$	$= \sum (x000)$
$f_2 = \sum (0001, 1001)$	$= \sum (x001)$
$f_3 = \sum (0110, 1010, 1011, 1110)$	$= \sum (x110, 101x)$

1020

1030

TCAM	SRAM
x000	01
x001	10

1035

$f_0 = \sum (0010, 0011, 0100, 0101, 0111, 1100, 1101, 1111) + \sum_{d.c.} (0000, 0001, 1000, 1001)$
$= \sum (xx0x, 00xx, x1x1)$
$f_3 = \sum (0110, 1010, 1011, 1110) + \sum_{d.c.} (0000, 0001, 1000, 1001)$
$= \sum (x110, 10xx)$

1040

1050

TCAM	SRAM
x000	01
x001	10
x110	11
10xx	11

1055

1055-2

1055-3

1050-3

1050-4

1070

TCAM	SRAM
x000	01
x001	10
x110	11
10xx	11
xxxx	00

1075

1075-5

1070-5

$$f_0 = \sum (xxxx)$$

1060

Fig. 7

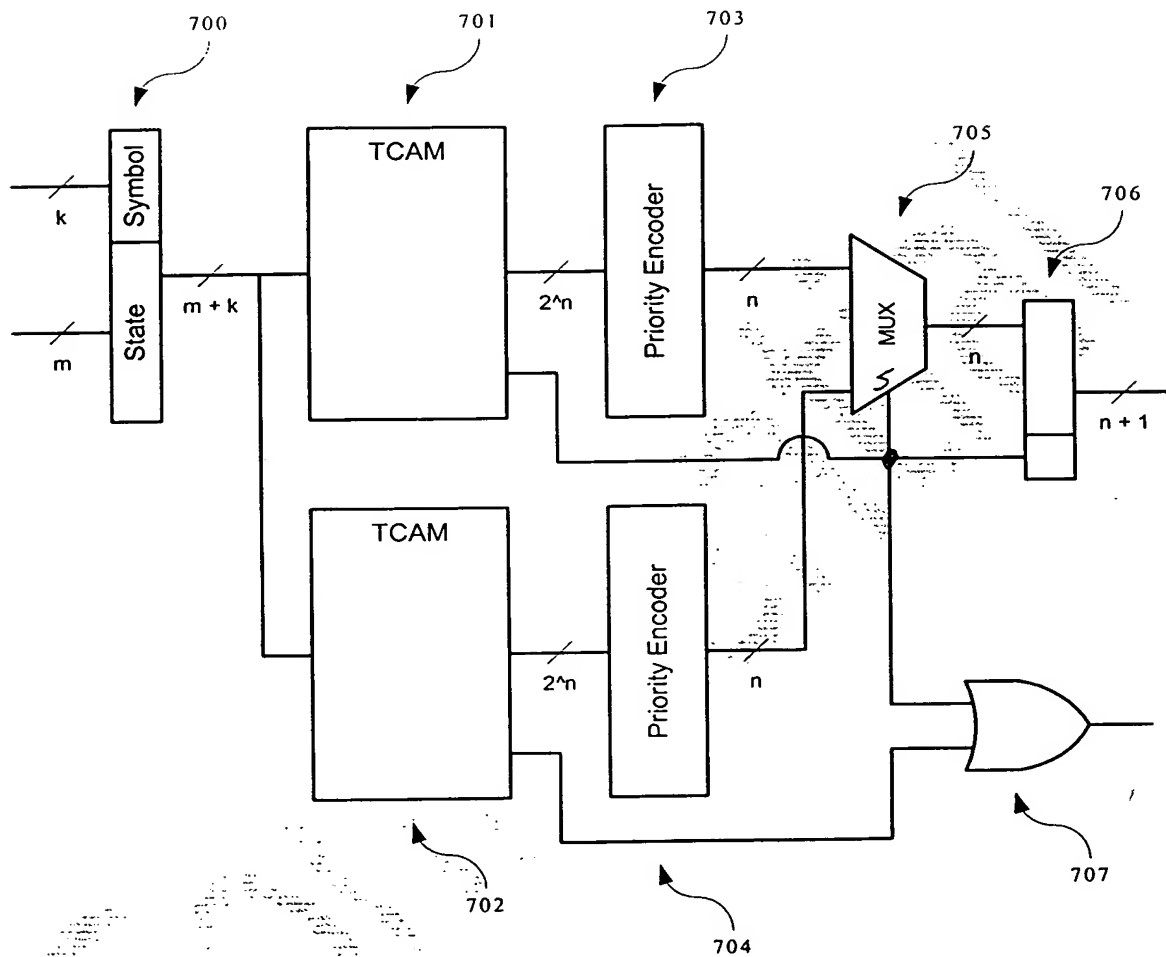


Fig 8

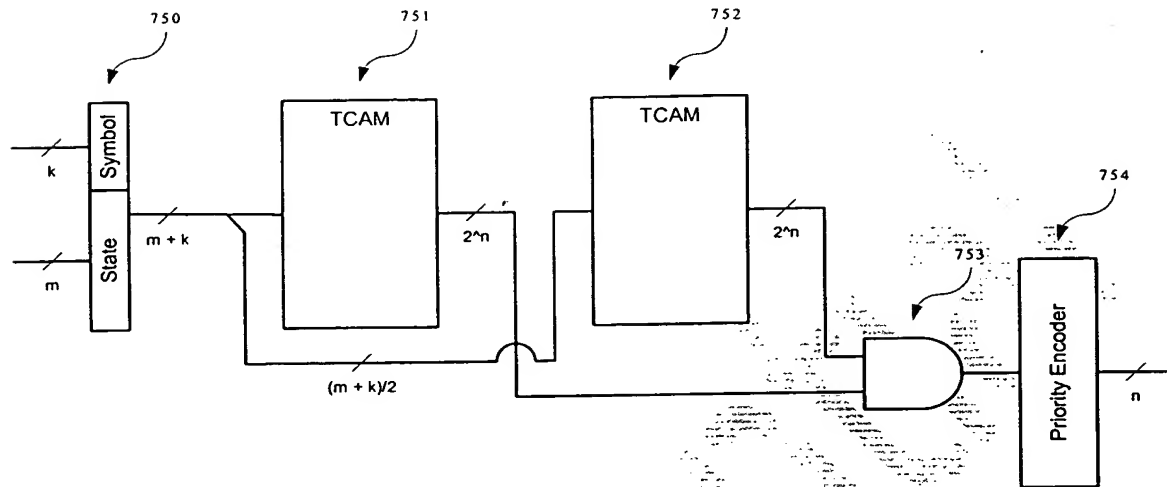


Fig. 9